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Management of Rheumatoid Arthritis in Africa

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ABSTRACT

Rheumatoid arthritis (RA) is a progressive autoimmune disorder with a significant impact on the quality of life, particularly in Africa where the disease burden is increasing. Despite the growing prevalence of RA on the continent, there remains a paucity of comprehensive data, limited access to advanced treatments, and significant challenges related to healthcare infrastructure, socioeconomic factors, and cultural beliefs. This paper explores the epidemiology of RA in Africa, identifies barriers to effective management, and reviews current treatment practices. It also discusses innovative and culturally relevant strategies to improve RA management, focusing on community-based interventions and the use of mobile technology. The paper concludes with a call for increased research, improved healthcare policies, and the adaptation of treatment guidelines to better serve the African context.

Keywords:

Rheumatoid arthritis, Africa, autoimmune disease, epidemiology, healthcare access, cultural factors.

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic inflammatory destructive polyarthritis that has a significant negative impact on the health-related quality of life in people living with the disease. The disease burden is rapidly increasing in Africa, with at least 2.4 million cases of RA estimated to exist currently. However, there is limited knowledge, awareness, and health care providers providing care and support for the population living with the disease. This article presents the current evidence on the burden of RA in Africa, its pathogenesis and management options, and the various opportunities for research and development to address the burden. The aim is to pave the way for subsequent detailed articles on specifically defined issues within this broad area [1, 2]. Rheumatoid arthritis is a progressive autoimmune disease that results in irreversible joint damage if there is no timely intervention. However, the advanced therapies needed to halt the progression of RA, reduce joint damage, and improve quality of life are lacking, until recently, in many developing countries, including most African countries. Therefore, the aim of this article series is to specifically review the current evidence on the burden of RA in Africa, its pathogenesis and management options, and possible ways to address the challenge in accordance with the continent's opportunities [3, 4].

BACKGROUND AND SIGNIFICANCE

Rheumatoid Arthritis (RA) is a systemic autoimmune disease arising from an interplay of genetic and environmental risk factors. Currently, there is an increasing burden of RA with an epidemiological transition in developing countries, including the African continent. Despite this increasing burden, there is a lack of population-based data on the burden of RA across the African continent. Further, this burden is compounded by a lack of medical experts in RA. There is hence an urgent need to establish the current burden of RA and improve rheumatology healthcare services in African nations [5, 6]. Since the 1980s, rheumatoid arthritis (RA) epidemiological studies have been conducted in various countries worldwide, and the results of these studies form the basis for understanding RA epidemiology in various global locations. Many of these studies have been conducted and published outside Africa, with a researcher-focused explanation provided for why this occurred and why there is a need for more research to be conducted in Africa. To help inform researchers and healthcare providers, the current state of RA in Africa, including recent studies, country-based epidemiology, and global burden comparisons, is discussed [7, 8].

EPIDEMIOLOGY OF RHEUMATOID ARTHRITIS IN AFRICA

Rheumatoid arthritis (RA) is a progressive, chronic inflammatory disease of the synovial joints and tissues, associated with systemic inflammation that can lead to extra-articular manifestations. Characteristics of the disease include symmetric polyarthritis, characterized by swelling and tenderness of multiple joints, bilaterally and progressively. RA is associated with activation of the immune system, synovial inflammation, destruction of cartilage and bone, and increased vascularity and growth of inflammatory tissues. It is estimated that there are about 1.9 million people affected by RA in the USA with about 50,000 new cases each year and disease incidence highest between the fourth and sixth decades of life. First-degree relatives of RA patients have a higher than population risk of developing the disease. Periarticular osteopenia and erosions may be seen as early as six months after disease onset, but joint space narrowing becomes evident over years and occurs more frequently at the second and third metacarpal phalangeal joints. RA is more common in women than men but its pathogenesis is poorly understood [9, 10]. Studies concerning the epidemiology of RA in Africa, where about 1.3 trillion people live, have been relatively very few and some have been of investigational rather than epidemiologic nature. It may be argued that studies from Africa do not allow conclusions to be drawn about communities and populations in Africa, but rather about particular groups or clinics, and are consequently not true epidemiologic studies, but reports of a disease which happens to be seen by particular clinicians in particular countries. Generally, the prevalence of seropositive RA in Africa ranges from as low as 0.3% to a high of 34%. Most studies show a higher prevalence of RA in women than in men, with a ratio of nearly 6:1. In a questionnaire survey in South Africa, it was reported that employment opportunities for people with RA were withheld because of their disability [7, 11].

PREVALENCE AND INCIDENCE

Epidemiological studies of the prevalence of RA in Africa are scarce and few countries have reported national prevalence estimates. The first significant study of the prevalence of RA in Africa was reported by Usenbo et al. in 2015. Eighteen African countries had prevalence estimates of 0.36% for RA. A second meta-analysis including five countries from Africa found a prevalence of 0.84% for RA, although they were not exclusively African based studies. Meanwhile, country specific prevalence studies on RA have been reported in South Africa, Senegal, Egypt, Algeria and Kenya [12, 13]. A community-based cross-sectional study using the ACR 1987 criteria found a crude prevalence rate of 4.78 per 1000, adjusting to a population of 30–64 years of 5.15 per 1000, higher rates are reported in women (7.42 per 1000) compared to men (2.76 per 1000). A second representative study deported similar findings, a higher prevalence was observed in Western Cape province and more prevalent in urban areas compared to rural areas. Using a SA study with older cohorts (≥65 years), a much lower prevalence estimation of RA (0.5%) is reported [14, 15].

CHALLENGES IN DIAGNOSIS AND TREATMENT

The naming and treatment of rheumatoid arthritis, as well as the approach to future challenges faced by healthcare practitioners, is further advanced in nations where traditional remedies are the foundation of healthcare. Indigenous healthcare practices, which are mostly patient or community-based bargaining, have generally arisen from spiritual beliefs in society. In the absence of adequate formal preventive measures, a number of the initial medical treatments have turned out to be effective. Nonetheless, there are other issues associated with the utilization of these remedies akin to treatment failures, toxicity and resistance. Moreover, there is no or very limited scientific investigation into the active ingredients and therapeutic values of the traditional remedies; with the epicentre of the polyphenol-bioactivity research transitioned to industrial nations, there is also a doubt on the future employing of indigenous resources for economic and social development. Broad consideration of these issues would be inspected utilizing the case of Asia despite the racial and cultural differences between the subcontinent and Africa [4, 16]. Rheumatoid arthritis in North Africa (NA), Sub-Saharan Africa (SSA), and South African (SA) regions have also adequate epidemiological studies, while the East African (EA) region has none. Clinical practice guidelines (CPGs) for the management of rheumatoid arthritis (RA) in Africa are hardly adapted to the local viewpoint. Diagnostic criteria, treatment EULAR recommendations clinical questions in RA CPG, systemic lupus erythematosus (SLE) CPG, biomarker in SLE CPG, treatment EULAR recommendations CPG in SLE and potential biomarker in SLE CPG were considered adequate with barely minor adaptations. In SSA, antibiotic resistance had prevented the standard employment of gold salts, methotrexate had been used for long duration and at lower dosage, radiotherapy is still used more often than other nations, and there are hardly any therapeutic recommendations on rehabilitative and surgical management. In recent years, TNF-a blockers and rituximab had not been fastened widely because of funding hitches, and there are disparities in their reimbursement and procurement. Clinical practice

standards are advocated to be seen as general recommendations/approach since none of them addressed local peculiarities adequately [5, 7].

LIMITED ACCESS TO HEALTHCARE

Access to healthcare is limited in Africa. There are complex and multi-faceted reasons for this, which generally boil down to: human resource shortages, underfunded health systems, long distances to hospitals, limited infrastructure, lack of access to equipment and drugs, and public insurance constraints. Within the African context, these challenges apply to and impact the diagnosis and treatment of all health conditions, including RA, which is obviously unfair to African populations. That this health inequity is being experienced in real time today – as the economies of the world's most populous continent are rigidly hamstrung by a viral contagion that is just now accumulating awareness and interest in its particular health, social, and economic effects – is breathtaking, if not mortifying. Essentially, it is the 21st century and access to healthcare is the exception, not the rule, for Africa. This is a humanitarian scandal and an international embarrassment [17].

CULTURAL AND SOCIOECONOMIC FACTORS IMPACTING MANAGEMENT

Rheumatoid arthritis is a chronic inflammatory disease that occurs due to impairment in immune function. In Africa, there is limited access to rheumatology care, even where it exists, patients have been reported to have limited access to health care services. Barriers to care and treatment are said to be poverty, lack of health insurance, language preference, and unavailability of specialists and skilled health personnel. Cultural beliefs and practices significantly impact the experience of people with rheumatoid arthritis in Africa. Cultural elements that impact the management of rheumatoid arthritis include: the understanding of the terms, cultural beliefs and practices associated with alleviating the pain, sickness, or disease, awareness of the cause of the disease, belief whether the disease can be cured, management of the disease and its influence, and help sought from different sources. Practices and beliefs in managing illness sometimes go against the biomedical beliefs. Socioeconomic factors impacting the management of rheumatoid arthritis involve fear of the disease progressing to disability and dependence, limited educational background, impact of drugs on work-life balance, challenge of managing the disease along with other responsibilities, financial difficulties, availability of drugs, society perception and awareness of the disease, workplace friendliness, and medications becoming ineffective over time [18].

INNOVATIVE APPROACHES AND BEST PRACTICES

Focusing on potential solutions, this section discusses innovative approaches and best practices in the management of rheumatoid arthritis in Africa. Research on African communities has led to several innovative approaches in addressing the multiple challenges using low-cost, culturally relevant and acceptability strategies and tools. Community-based interventions to address mental health issues globally include low-intensity, low-cost and culturally-relevant interventions. These interventions need to be culturally appropriate because research indicates that the effectiveness of treatments varies between cultural groups. In Mozambique, Chile, India, South Africa, Nigeria, Uganda, Zambia, Zimbabwe and Botswana, lay workers have been trained to act as mediators using a manual-based treatment approach. These studies formed the basis for the WHO program for mental health in LMICs (low- and middle-income countries). Other studies focused on acceptability and accessibility to improve linkage to diabetes care services. These studies developed culturally appropriate and low-cost health promotion pictorial tools. They addressed illness perception, stigma and misconceptions, and included community education on diabetes, family participation and referral protocols with respected gatekeepers [19, 20]. There was a study that explored the feasibility of a community-based RA management program with mobile phone technology among low-SES women using CBW in South Africa. The program included a 6-week RA education and self-management training and mobilised lay health workers to facilitate access to services. Mobile phone technology, an innovative rural mobile extension service for women with chronic conditions, was also used. Empowering women to improve their health-seeking behaviour about RA within available resources is an innovative approach. These, and perhaps other novel strategies, should be explored and implemented to address the identified barriers to RA care in LMICs [21, 22].

COMMUNITY-BASED INTERVENTIONS

Zooming into initiatives specific to countries or regions, community-based interventions were a key component of innovative approaches for managing RA. Couple of recent studies explored the effectiveness and dynamics of community-based interventions in managing RA within the African context. Interventions targeted local or specific communities and employed culturally relevant educational messages, community RA champion lay educators, resources within existing community networks, peer support, and social engagement around self-management and healthcare-seeking activities. Digital means of communication, education, and training developed during the COVID-19 pandemic created opportunities for remote learning. Community-based interventions are critically under-resourced

mechanisms for changing knowledge, skills, attitudes, and access to healthcare services. Such interactions occur outside formal settings while capitalizing on social networks, peer-support, or informal healthcare providers. Community-based interventions are highly suited to promoting equitable access to preventive healthcare services, particularly for disadvantaged or marginalized populations and those with chronic conditions [23, 24].

CONCLUSION

The management of rheumatoid arthritis in Africa faces numerous challenges, including limited healthcare access, cultural and socioeconomic barriers, and a lack of population-specific data. However, there are emerging opportunities to improve RA care through innovative approaches such as community-based interventions and mobile health technologies. These strategies, when culturally adapted and supported by increased research and policy development, can significantly enhance the quality of life for RA patients in Africa. There is an urgent need for collaborative efforts to address these challenges and optimize RA management across the continent, ultimately reducing the disease burden and improving patient outcomes.

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